

**STATE OF IOWA
DEPARTMENT OF PUBLIC SAFETY**

STATE FIRE MARSHAL DIVISION

MEMORANDUM

TO: Betsy Dittmore, Legislative Liaison

FROM: George Howe, State Fire Marshal *GH*

DATE: February 2, 2001

SUBJ: Delayed egress locks

The following is information requested regarding delayed egress locking systems, which have been, and continue to be, installed in a number of facilities in Iowa. These systems employ a magnetic locking device. When a force is applied to the release device (panic hardware or doorknob) an alarm will sound. The force applied to the release device must initiate an irreversible process, which will then release the lock within 15 seconds.

The State Fire Marshal is the authority having jurisdiction over special locking arrangements. The requirements for these systems are found in the National Fire Protection Association Life Safety Code Handbook (NFPA 101-1985 edition) and the Iowa Administrative Code Chapter 5, specifically 661-5.53 (3) and 661-5.601 (3). Copies of each section are attached to this memorandum.

There is no state or federal requirement to install this type of locking system on designated fire exit doors. If a facility, however, chooses to install this type of locking system, all applicable state and federal codes must be met, and written approval must be obtained from the Fire Marshal Division prior to installation and activation of the system per IAC 661-5.601(3). These same regulations have been in place for approximately ten years.

The Iowa Department of Inspection and Appeals does not have authority to approve special locking arrangements. Inspection and Appeals requires, in its minimum physical standards for nursing facilities, per IAC 481-61.12(5) that only an exit door alarm system be installed on all designated fire exit doors,

In those same rules, concerning specialized units or facilities for persons with chronic confusion or a dementing illness, IAC 481-61.13(1) states, if the unit or facility is to be a locked unit or facility, all locking devices shall meet the life safety code and any requirements of the state fire marshal. If the unit or facility is to be unlocked, a system of security monitoring is required.

If a facility chooses to install a delayed egress locking system the State Fire Marshal Division requires there to be a direct physical connection between the releasing device (i.e., panic hardware) and the magnetic lock in that the movement of the door's hardware must initiate the release process. This is, and always has been, the interpretation of the rule by this office. We have conferred with the Iowa Attorney General's Office concerning the magnetic door locking requirements and that office is in agreement with our interpretation and enforcement of the code issues surrounding the systems.

I did consult with Mr. Allan Fraser, Senior Building Code Specialist with the National Fire Protection Association, concerning the issue. The NFPA regulations do not permit staff to provide formal interpretations, however, Mr. Fraser did write in his opinion, The English in 5-2.1.6 is clear, the application of a force to the release device must trigger the irreversible unlocking process. Therefore, it is clear that any switch (es) must be a part of the releasing device (i.e., part of the panic bar).

There have been, over the last few years, a number of delayed egress locking systems installed in facilities, without the required written approval of the fire marshal, that are not in compliance with the requirements of this office. Unfortunately, that oversight is not detected until an on sight inspection by this office and orders must be written requiring the system to be brought into compliance.

We are currently experiencing no problems with approval of the installation of locking systems that do meet the code requirements for facilities seeking the required approval from our office prior to installation.

Any delay encountered while attempting to exit a facility is, from a fire safety standpoint, of vital importance. The delayed egress locking system does just that and, because of that fact, is allowed only in facilities protected throughout by an approved fire detection or automatic sprinkler system.

The State Fire Marshal Division interprets and enforces the requirements for this type of locking system in a manner we feel ensures the highest integrity of the system and, in doing so, provides occupants and employees of a facility with a high degree of life safety in the event of a fire.

the provision does not apply. It is recommended that, in the situation where a second leaf is provided for reasons other than egress, the second leaf be **arranged** so as not to be mistaken for the exit.

5-2.1.5.5 No lock, padlock, hasp, bar, chain, or other device, or combination thereof, shall be installed or maintained at any time on or in connection with any door on which panic hardware or fire exit hardware is required by this **Code** if such device prevents or is intended to prevent the free use of the door for purposes of egress.

It is not the intent of 5-2.1.5.5 to require panic hardware. That requirement is made by the various occupancy chapters. It is the intent, however, that where panic hardware is installed, no device or arrangement interfere with its function.

5-2.1.6 Special Locking Arrangements.

5-2.1.6.1 In buildings protected throughout by an approved supervised automatic fire detection system or approved supervised automatic sprinkler system and when permitted by Chapters 8 through 30, doors in low and ordinary hazard areas, as defined by 4-2.2, may be equipped with approved, listed, locking devices which shall:

(a) Unlock upon actuation of an approved supervised automatic fire detection system or approved supervised automatic sprinkler system installed in accordance with Section 7.6 or 7-7, and

(b) Unlock upon loss-of power controlling the lock or locking mechanism, and

* (c) Initiate an irreversible process which will release the lock within 15 seconds whenever a force of not more than 15 lbf (67 N) is continuously applied, for a period of not more than three seconds to the release device required in 5-2.1.5.3. Relocking of such doors shall be by manual means only. Operation of the release device shall activate a signal in the vicinity of the door for assuring those attempting to exit that the system is functional.

Exception to (c): The authority having jurisdiction may approve a delay not to exceed 30 seconds provided that reasonable life safety is assured.

5-2.1.6.2* A sign shall be provided on the door adjacent to the release device which reads:

PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 SECONDS.
Sign letters shall be at least 1 in. (2.5 cm) high and 1/8 in. (0.3 cm) wide stroke.

A-5-2.1.6.2 In the event that the authority having jurisdiction has allowed increased operation time the sign should reflect the appropriate time.

5-2.1.6.3 Emergency lighting in accordance with Section 5.9 shall be provided at the door.

This special locking arrangement is allowed only when specifically permitted by the appropriate occupancy chapter. Paragraph 5-2.1.6.1 requires that the building be protected throughout with either a supervised automatic fire detection system or a supervised automatic sprinkler

Howe, George

From: Cohen, Linda [lcohen@NFPA.org]
Sent: Monday, January 29, 2001 1:42 AM
To: Howe, George
Subject: RE: delayed egress locks

January 29, 2001

George Howe
State Fire Marshal

Re: 101-85, 5-2.1.6

Dear Mr. Howe:

In response to your inquiry of 1-24-01, please be advised that NFPA regulations do not permit staff to **provide** formal interpretations, however, I would be pleased to offer my personal opinion for your consideration.

The English in 5-2.1.6 is clear, the application of a force to the release device must trigger the irreversible unlocking process, Therefore, it is clear that any **switch(es)** must be part of the releasing device (Le.. part of the panic bar).

I hope this provides a clear answer to your questions.

Sincerely,

Allan B. Fraser, CBI, CPCA
Senior Building Code Specialist
Building Fire Protection and Life Safety

AF/lc#2364

Important Notice: This correspondence is not a Formal Interpretation issued pursuant to NFPA Regulations. Any opinion expressed is the personal opinion of the author, and does not necessarily represent the official position of the NFPA or its Technical Committees. In addition, this correspondence is neither intended, nor should be relied upon, to provide consultation or services.

-----Original Message-----

From: Howe, George [mailto:howe@dps.state.ia.us]
Sent: Wednesday, January 24, 2001 5:43 PM
To: 'lsc@nfpa.org'
Subject: delayed egress locks


Alan Fraser
NFPA

Mr. Fraser,

This e-mail is to confirm our conversation of January 24, 2001 concerning delayed egress locking systems and to request a written response to our

MEMORANDUM

TO: George Howe
State Fire Marshal

FROM: Jen Worthington 
Fire Prevention Supervisor

RE: Magnetic door locks

DATE: February 2, 2001

On January 24, 2001, I called the Kansas State Fire Marshal's Office and discussed our interpretation of section 5-2.1.6 of the Life Safety Code and the direct connection between the release device on the door and the magnet. In my discussion with Jack **Chatman**, it was determined that Iowa's interpretation was consistent with Kansas. He commented that they see very few magnetic door locks and most of them are on Alzheimer's units.

I also called the Minnesota State Fire Marshal's Office and had a discussion with Rich Pierson. He told me that Minnesota requires the direct connection between the panic hardware and the magnet. In addition, they require a fire alarm manual pull station next to each door that is equipped with a magnetic door lock.

They both commented that they did not see how 5-2.1.6 could be interpreted any other way.

Both of these states are in our region for Health Care Financing Administration (HCFA) federal medicare/medicaid health care surveys.